



U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

Monthly Wholesale Trade

Sales and Inventories

December 1998

BW/98-12

Issued February 1999

MONTHLY WHOLESALE TRADE: SALES AND INVENTORIES DECEMBER 1998

Intention to Revise Wholesale Estimates: Monthly wholesale data will be revised based on the results of the 1997 Annual Trade Survey. Unadjusted sales, inventories, and inventories/sales ratios will be revised for January 1993 through February 1999, while corresponding adjusted data will be revised for January 1990 through February 1999. Revised data are scheduled for release the week of May 2.

Sales. December 1998 sales of merchant wholesalers, after adjustment for seasonal variations and trading-day differences but not for price changes, were \$217.4 billion, up 1.2 percent (+/- 0.8%) from the revised November level and were 3.7 percent (+/- 1.7%) above December 1997. The November preliminary estimate was revised upward \$0.7 billion or 0.3 percent. December sales of durable goods increased 1.4 percent (+/- 1.2%) from November and were 3.4 percent (+/- 2.2%) above last December. Compared to last month, sales of professional and commercial equipment and supplies increased 5.2 percent. Among nondurable goods, sales of drugs, drug proprietaries and druggists' sundries increased 5.6 percent from last month, while petroleum and petroleum products fell 5.4 percent.

Inventories. Total inventories of merchant wholesalers, after adjustment for seasonal variation but not for price changes, were \$287.2 billion at the end of December, up 0.5 percent (+/- 0.4%) from the revised November level and were 5.2 percent (+/- 1.5%) above December 1997. The November

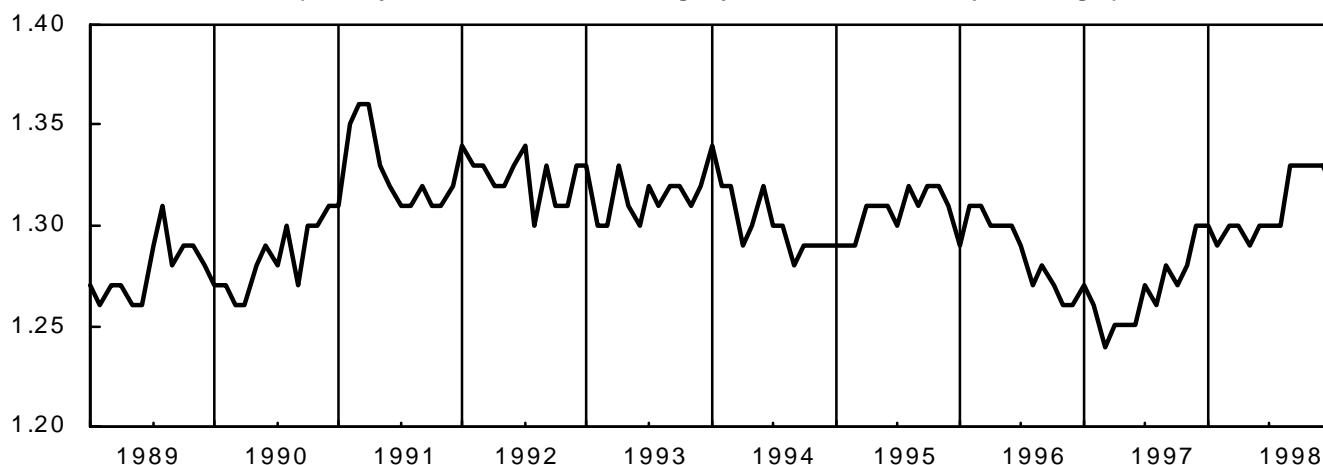
preliminary estimate was revised upward \$0.4 billion or 0.1 percent. End-of-month inventories of durable goods increased 0.7 percent (+/- 0.4%) from last month and were 5.5 percent (+/- 1.8%) above December 1997. Compared to last month, inventories of motor vehicles and automotive equipment increased 4.1 percent, while professional and commercial equipment and supplies decreased 2.8 percent. Among nondurable goods, inventories of chemicals and allied products rose 1.0 percent from last month, while petroleum and petroleum products declined 5.7 percent.

Inventories/Sales Ratio. The December inventories/sales ratio for merchant wholesalers, based on seasonally adjusted data, was 1.32. The December 1997 ratio was 1.30.

Data in this report are based on a sample and, therefore, are subject to sampling and nonsampling variability. A discussion of the reliability of the data and general survey methodology appears in BW/97-RV Current Business Reports.

Monthly Inventories/Sales Ratios of Merchant Wholesalers: 1989 to 1998

(Data adjusted for seasonal and trading-day differences, but not for price changes)



Monthly Wholesale Trade for January is scheduled to be released March 9, 1999 at 10:00 a.m.

Address inquiries concerning this report to Service Sector Statistics Division, Bureau of the Census, Washington, DC 20233, or call Ronald Piencykoski, (301) 457-2779 or 457-2764. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

This report is available on day of issue through the Department of Commerce's online Economic Bulletin Board (202-482-1986). The data are also available on the internet - <http://www.census.gov/svsd/www/mwts.html>.

Table 1. Estimated Monthly Sales, Inventories, and Inventories/Sales Ratios of Merchant Wholesalers: 1998 and 1997

[In millions of dollars]

SIC ¹ code	Kind of business	Sales						Inventories						Inventories/Sales		
		Monthly			Percent change			Monthly			Percent change			ratios		
		Dec. 1998 (p)	Nov. 1998 (r)	Dec. 1997 (r)	Dec./ Nov.	Nov./ Oct.	Dec. 98 Dec. 97	Dec. 1998 (p)	Nov. 1998 (r)	Dec. 1997 (r)	Dec./ Nov.	Nov./ Oct.	Dec. 98 Dec. 97	Dec. 1998 (p)	Nov. 1998 (r)	Dec. 1997 (r)
Adjusted ²																
	U.S. Total	217,391	214,891	209,721	1.2	0.7	3.7	287,249	285,716	273,003	0.5	0.7	5.2	1.32	1.33	1.30
50	Durable	113,928	112,360	110,226	1.4	0.4	3.4	187,672	186,449	177,840	0.7	0.3	5.5	1.65	1.66	1.61
501	Automotive	19,854	19,676	17,125	0.9	3.2	15.9	29,628	28,466	29,044	4.1	-0.7	2.0	1.49	1.45	1.70
502	Furniture	3,296	3,405	3,441	-3.2	2.1	-4.2	5,622	5,623	5,472	0.0	-3.7	2.7	1.71	1.65	1.59
503	Lumber	8,028	7,885	7,423	1.8	1.6	8.2	7,476	7,582	7,774	-1.4	-1.0	-3.8	0.93	0.96	1.05
504	Prof. equip.	21,588	20,517	20,969	5.2	-3.2	3.0	24,435	25,133	25,859	-2.8	0.0	-5.5	1.13	1.22	1.23
505	Metals	8,289	8,346	9,207	-0.7	-1.0	-10.0	14,718	14,930	13,936	-1.4	1.3	5.6	1.78	1.79	1.51
506	Electrical	17,228	17,197	17,003	0.2	-1.4	1.3	27,891	27,563	25,781	1.2	0.6	8.2	1.62	1.60	1.52
507	Hardware	6,680	6,660	6,391	0.3	4.0	4.5	13,622	13,525	12,449	0.7	0.6	9.4	2.04	2.03	1.95
508	Machinery	18,475	18,368	17,622	0.6	2.5	4.8	47,625	46,799	41,758	1.8	1.0	14.1	2.58	2.55	2.37
509	Other Durable	10,490	10,306	11,045	1.8	-1.0	-5.0	16,655	16,828	15,767	-1.0	1.2	5.6	1.59	1.63	1.43
51	Nondurable	103,463	102,531	99,495	0.9	1.0	4.0	99,577	99,267	95,163	0.3	1.4	4.6	0.96	0.97	0.96
511	Paper	8,002	7,909	7,235	1.2	0.1	10.6	9,335	9,245	8,950	1.0	2.0	4.3	1.17	1.17	1.24
512	Drugs	12,195	11,543	10,120	5.6	1.3	20.5	15,718	15,461	13,458	1.7	1.4	16.8	1.29	1.34	1.33
513	Apparel	6,824	6,841	7,078	-0.2	-1.9	-3.6	12,152	12,239	12,201	-0.7	-0.3	-0.4	1.78	1.79	1.72
514	Groceries	29,067	29,198	27,460	-0.4	0.4	5.9	16,150	16,277	15,784	-0.8	1.5	2.3	0.56	0.56	0.57
515	Farm-products	9,153	8,889	10,192	3.0	-1.1	-10.2	12,504	12,663	12,060	-1.3	0.1	3.7	1.37	1.42	1.18
516	Chemicals	4,534	4,558	4,698	-0.5	-1.8	-3.5	5,187	5,138	4,918	1.0	1.2	5.5	1.14	1.13	1.05
517	Petroleum	11,301	11,951	12,929	-5.4	-1.9	-12.6	3,950	4,189	4,782	-5.7	-3.6	-17.4	0.35	0.35	0.37
518	Alcohol	5,003	4,941	4,849	1.3	-1.1	3.2	5,479	5,596	5,066	-2.1	1.7	8.2	1.10	1.13	1.04
519	Other Nondur.	17,384	16,701	14,934	4.1	9.0	16.4	19,102	18,459	17,944	3.5	4.2	6.5	1.10	1.11	1.20
Not Adjusted														Sales to date		
	U.S. Total	221,513	207,832	213,675	6.6	-7.5	3.7	287,806	287,887	273,656	0.0	0.7	5.2	2,561,586	2,500,109	
50	Durable	115,395	108,427	111,471	6.4	-9.2	3.5	184,674	184,636	175,033	0.0	-0.4	5.5	1,357,589	1,311,313	
501	Automotive	20,569	18,830	17,605	9.2	-4.6	16.8	28,621	28,608	28,086	0.0	-0.4	1.9	228,289	216,561	
502	Furniture	3,352	3,562	3,465	-5.9	-2.0	-3.3	5,487	5,584	5,341	-1.7	-4.4	2.7	41,075	40,929	
503	Lumber	7,169	7,341	6,651	-2.3	-13.0	7.8	7,222	7,347	7,533	-1.7	-0.1	-4.1	91,572	90,161	
504	Prof. equip.	23,337	19,183	22,730	21.7	-13.6	2.7	24,386	25,359	25,833	-3.8	0.4	-5.6	255,085	237,036	
505	Metals	7,875	7,829	8,747	0.6	-10.4	-10.0	14,850	14,497	14,061	2.4	0.7	5.6	104,350	107,887	
506	Electrical	17,038	16,939	16,782	0.6	-11.3	1.5	27,222	27,122	25,188	0.4	0.7	8.1	205,881	201,156	
507	Hardware	6,319	6,507	6,033	-2.9	-7.9	4.7	13,418	13,282	12,262	1.0	0.0	9.4	79,427	75,970	
508	Machinery	18,826	17,229	18,115	9.3	-7.1	3.9	47,196	46,144	41,340	2.3	-0.3	14.2	221,992	206,441	
509	Other Durable	10,910	11,007	11,343	-0.9	-8.4	-3.8	16,272	16,693	15,389	-2.5	-3.4	5.7	129,918	135,172	
51	Nondurable	106,118	99,405	102,204	6.8	-5.5	3.8	103,132	103,251	98,623	-0.1	2.7	4.6	1,203,997	1,188,796	
511	Paper	8,098	7,521	7,315	7.7	-8.3	10.7	9,578	9,439	9,174	1.5	3.4	4.4	91,641	84,813	
512	Drugs	12,975	11,312	10,758	14.7	-4.8	20.6	16,017	15,507	13,727	3.3	0.7	16.7	133,273	113,641	
513	Apparel	5,637	6,301	5,712	-10.5	-20.6	-1.3	12,201	11,847	12,250	3.0	-2.0	-0.4	83,357	82,805	
514	Groceries	29,823	28,643	28,201	4.1	-4.5	5.8	16,247	16,863	15,910	-3.7	-0.1	2.1	343,501	327,538	
515	Farm-products	10,499	9,280	11,751	13.1	-3.9	-10.7	15,343	15,740	14,822	-2.5	9.0	3.5	108,148	125,302	
516	Chemicals	4,248	4,275	4,416	-0.6	-10.2	-3.8	5,203	5,112	4,928	1.8	3.0	5.6	54,994	55,673	
517	Petroleum	11,889	11,999	13,795	-0.9	-4.4	-13.8	4,163	4,306	5,021	-3.3	-4.5	-17.1	145,644	166,475	
518	Alcohol	5,878	5,010	5,606	17.3	-4.3	4.9	5,068	6,033	4,686	-16.0	0.5	8.2	57,983	54,955	
519	Other Nondur.	17,071	15,064	14,650	13.3	0.5	16.5	19,312	18,404	18,105	4.9	7.5	6.7	185,456	177,594	

p Preliminary estimate. r Revised.

1 For a full description of the SIC Codes shown above see the "1987 Standard Industrial Classification Manual" or the Current Business Reports "Annual Benchmark Report for Wholesale Trade" publication.

2 Data adjusted for seasonal variations and, in the case of sales, also for trading-day differences. See Table 3 for seasonal adjustment factors used

Table 2. Coefficients of Variation and Standard Error for Sales and Inventories

SIC code	Kind of business	Coefficients of variation for level (x 100)				Standard error for trend				Coefficients of variation for level (x 100)		Standard error for trend
		Preliminary estimates		Final estimates		Ratio of two consecutive months		Year to year estimates		Cumulative sales estimates		Current year cumulative
		Sales	Inv	Sales	Inv	Sales	Inv	Sales	Inv	Current	Previous	to
		Median	Median	Median	Median	Median	Median	Median	Median	year	year	previous year cumulative
	U.S. Total	1.0	1.3	1.0	1.3	0.4	0.2	0.7	1.0	0.9	0.7	0.4
50	Durable	2.0	2.2	1.9	2.2	0.6	0.3	1.0	1.2	1.9	2.3	0.9
501	Automotive	4.2	5.2	4.2	5.3	1.0	0.9	2.0	2.0	4.1	4.3	1.6
502	Furniture	6.5	7.7	6.6	7.7	2.0	0.8	3.6	2.3	6.3	5.9	2.3
503	Lumber	5.0	5.7	5.1	5.8	1.2	0.7	2.1	2.3	4.9	5.2	1.5
504	Prof. equip.	5.2	6.3	4.9	6.1	1.3	0.6	3.1	2.8	4.6	5.1	2.5
505	Metals	4.6	9.2	4.6	9.2	1.2	0.7	1.6	3.1	4.4	4.3	1.0
506	Electrical	5.9	6.3	5.9	6.2	1.5	0.5	2.0	2.4	5.9	5.3	1.2
507	Hardware	5.3	5.8	5.5	5.7	1.1	0.6	1.5	1.8	5.3	4.8	0.8
508	Machinery	6.5	6.0	6.2	6.0	1.7	0.6	2.9	2.1	6.1	5.7	1.8
509	Other Durable	5.7	7.9	5.8	7.9	1.7	0.9	2.7	2.2	5.7	5.0	1.4
51	Nondurable	1.9	2.2	1.9	2.2	0.6	0.4	1.0	1.2	1.7	1.0	0.6
511	Paper	4.9	5.1	4.8	4.9	1.1	0.6	2.5	3.6	4.7	0.5	0.5
512	Drugs	6.3	4.8	6.3	4.8	0.9	0.5	2.3	1.5	6.2	5.6	2.1
513	Apparel	5.3	7.7	5.1	7.6	2.0	1.0	2.9	2.6	4.7	4.6	2.1
514	Groceries	3.0	5.4	3.0	5.5	0.8	0.6	1.1	1.2	2.9	2.9	0.9
515	Farm-products	6.1	8.1	5.8	8.2	2.2	1.7	2.7	4.0	5.1	5.2	1.9
516	Chemicals	5.8	6.0	5.8	5.9	1.4	0.6	2.1	1.9	5.7	5.9	1.1
517	Petroleum	6.0	16.0	5.9	15.6	0.9	0.9	1.9	1.7	5.8	5.9	0.9
518	Alcohol	6.4	8.6	6.4	8.6	1.5	1.3	1.4	16.9	6.2	6.4	0.5
519	Other Nondur.	6.2	6.5	6.3	6.6	1.8	1.2	3.9	4.0	5.7	5.3	2.7

Note: The median measures of variability are based on the most recent 12 months of data.

Sample Design and Reliability of Data

There are two types of errors possible in an estimate based on a sample survey: sampling and nonsampling.

Sampling errors occur because observations are made on a sample, not on the entire population, and different samples could have led to different estimates. Standard errors and coefficients of variation, as calculated for this report, are measures of sampling variation. The margin of sampling error, as used on page 1, gives a range about the estimate which is a 90% confidence interval. If, for example, the trend estimate is up 1.2% and the standard error is 0.9%, then the margin of sampling error is $\pm 1.65 \times 0.9\%$ or $\pm 1.5\%$, and the 90% confidence interval is -0.3% to +2.7%. If the interval contains 0, it cannot be stated with certainty whether there was an increase or decrease. For monthly level, the coefficient of variation (CV) is given. The resulting confidence interval is the estimated value $\pm 1.65 \times CV \times$ (the estimated value).

Nonsampling errors are usually attributed to many possible sources: (1) coverage error - failure to accurately represent all population units in the sample,

(2) inability to obtain information about all sample cases, (3) response errors, possibly due to definitional difficulties or misreporting, (4) mistakes in recording or coding the data obtained, and (5) other errors of collection or processing, or in imputing for missing or inconsistent data. Coverage error has an effect on the accuracy of estimates for this survey to the extent that the administrative records system, which forms the basis of our survey universe frame, does not contain all legal businesses. A major source of nonsampling error in the published estimates is due to the need to impute data for nonrespondents and for late and inconsistent reports. For all kinds of businesses combined, imputed data amount to about 26 percent of the total monthly wholesale sales estimates and 28 percent of the total monthly wholesale inventories estimates.

Nonsampling errors also occur in complete censuses. Although no direct measures of these errors have been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data to minimize their influence.

Official Business

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Table 3. Seasonal Adjustment Factors for Sales and Inventories of Merchant Wholesalers

SIC code	Kind of Business	Sales						Inventories					
		1999	1998				1997	1999	1998				1997
		Jan.	Dec.r	Nov.r	Oct.	Sep.	Dec.r	Jan.	Dec.r	Nov.r	Oct.	Sep.	Dec.r
	U.S. Total¹	0.911	1.014	0.968	1.061	1.026	1.017	1.022	1.003	1.008	1.006	0.979	1.003
50	Durable	0.886	1.006	0.967	1.069	1.050	1.008	0.998	0.984	0.990	0.996	0.996	0.984
501	Automotive	0.873	1.036	0.957	1.036	0.981	1.028	1.015	0.966	1.005	1.002	0.986	0.967
502	Furniture	0.861	1.017	1.046	1.089	1.062	1.007	0.978	0.976	0.993	1.000	1.033	0.976
503	Lumber	0.827	0.893	0.931	1.088	1.074	0.896	0.978	0.966	0.969	0.960	0.994	0.969
504	Prof. equip.	0.920	1.081	0.935	1.048	1.073	1.084	1.010	0.998	1.009	1.005	0.985	0.999
505	Metals	0.946	0.950	0.938	1.036	1.028	0.950	1.012	1.009	0.971	0.976	0.986	1.009
506	Electrical	0.895	0.989	0.985	1.095	1.094	0.987	0.998	0.976	0.984	0.983	1.005	0.977
507	Hardware	0.875	0.946	0.977	1.103	1.078	0.944	0.982	0.985	0.982	0.988	0.996	0.985
508	Machinery	0.893	1.019	0.938	1.035	0.992	1.028	0.988	0.991	0.986	0.999	0.983	0.990
509	Other Durable	0.846	1.040	1.068	1.154	1.092	1.027	0.991	0.977	0.992	1.039	1.029	0.976
51	Nondurable	0.939	1.024	0.970	1.046	0.999	1.028	1.060	1.038	1.040	1.025	0.954	1.038
511	Paper	0.976	1.012	0.951	1.039	1.056	1.011	1.022	1.026	1.021	1.007	0.982	1.025
512	Drugs	0.997	1.064	0.980	1.043	1.028	1.063	1.073	1.019	1.003	1.010	0.991	1.020
513	Apparel	0.895	0.826	0.921	1.138	1.120	0.807	1.044	1.004	0.968	0.985	1.008	1.004
514	Groceries	0.942	1.026	0.981	1.031	0.988	1.027	1.002	1.006	1.036	1.053	1.007	1.008
515	Farm products	1.055	1.147	1.044	1.074	0.973	1.153	1.288	1.227	1.243	1.141	0.718	1.229
516	Chemicals	0.935	0.937	0.938	1.025	0.993	0.940	0.995	1.003	0.995	0.977	0.980	1.002
517	Petroleum	0.992	1.052	1.004	1.030	0.974	1.067	1.008	1.054	1.028	1.037	1.008	1.050
518	Alcohol	0.738	1.175	1.014	1.048	1.000	1.156	0.932	0.925	1.078	1.091	1.052	0.925
519	Other Nondur.	0.831	0.982	0.902	0.979	0.969	0.981	1.056	1.011	0.997	0.966	0.931	1.009

r Revised

1 Adjusted sales and inventories data shown in table 1 are obtained by dividing the unadjusted data by the adjustment factors shown above for the corresponding group. Adjusted data for the totals are obtained by adding the durable and nondurable goods. Seasonal factors shown for the totals will provide an approximation of the adjusted estimates, but may show small differences from the published data.

Note: The seasonal factors shown have been computed based on monthly estimates through the current month preliminary estimates.

